Express Mail Label No. EL175652428US 08-28-00 A

08/25/00 jc916 U.S. PTO

UTILITY PATENT APPLICATION TRANSMITTAL
(Large Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
B588-011

Total Pages in this Submission
3

TO THE ASSISTANT COMMISSIONER FOR PATENTS
Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

CHARGE CALCULATION APPARATUS AND METHOD

jc862 U.S. PTO 09/648870 08/25/00

and invented by:

Hiroyuki Hara

If a CONTINUATION APPLICATION, *check appropriate box and supply the requisite information:*

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Which is a:

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Which is a:

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Enclosed are:

Application Elements

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having **22** pages and including the following:
   - a. ☒ Descriptive Title of the Invention
   - b. ☐ Cross References to Related Applications *(if applicable)*
   - c. ☐ Statement Regarding Federally-sponsored Research/Development *(if applicable)*
   - d. ☐ Reference to Microfiche Appendix *(if applicable)*
   - e. ☒ Background of the Invention
   - f. ☒ Brief Summary of the Invention
   - g. ☒ Brief Description of the Drawings *(if drawings filed)*
   - h. ☒ Detailed Description
   - i. ☒ Claim(s) as Classified Below
   - j. ☒ Abstract of the Disclosure

UTILITY PATENT APPLICATION TRANSMITTAL
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Application Elements (Continued)

3. ☒ Drawing(s) *(when necessary as prescribed by 35 USC 113)*
   a. ☒ Formal Number of Sheets 5
   b. ☐ Informal Number of Sheets

4. ☐ Oath or Declaration
   a. ☐ Newly executed *(original or copy)* ☐ Unexecuted
   b. ☐ Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional application only)*
   c. ☐ With Power of Attorney ☐ Without Power of Attorney
   d. ☐ *DELETION OF INVENTOR(S)*
   Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. 1.63(d)(2) and 1.33(b).

5. ☐ Incorporation By Reference *(usable if Box 4b is checked)*
   The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. ☐ Computer Program in Microfiche *(Appendix)*

7. ☐ Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all must be included)*
   a. ☐ Paper Copy
   b. ☐ Computer Readable Copy *(identical to computer copy)*
   c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

8. ☐ Assignment Papers *(cover sheet & document(s))*

9. ☐ 37 CFR 3.73(B) Statement *(when there is an assignee)*

10. ☐ English Translation Document *(if applicable)*

11. ☐ Information Disclosure Statement/PTO-1449 ☐ Copies of IDS Citations

12. ☒ Preliminary Amendment

13. ☒ Acknowledgment postcard

14. ☒ Certificate of Mailing
   ☐ First Class ☒ Express Mail *(Specify Label No.):* EL175652428US

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Total Pages in this Submission 3

Accompanying Application Parts (Continued)

15. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*

16. ☒ Additional **Comments** *(please identify below):*

Claim will be made under 35 U.S.C. § 119 for the benefit of the filing date of Japanese Patent Application No. 11-239819 filed August 26, 1999 in Japan. A certified copy of the application will be filed in due course.

A "Combined Declaration and Power of Attorney for Patent Application" will be filed at a later date.

Fee Calculation and Transmittal

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra		Rate	Fee
Total Claims	14	- 20 =	0	x	$18.00	$0.00
Indep. Claims	6	- 3 =	3	x	$78.00	$234.00
Multiple Dependent Claims (check if applicable) ☐						$0.00
					BASIC FEE	$690.00
OTHER FEE *(specify purpose)* _____						$0.00
					TOTAL FILING FEE	$924.00

☒ A check in the amount of **$924.00** to cover the filing fee is enclosed.

☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. **18-1644** as described below. A duplicate copy of this sheet is enclosed.

- ☐ Charge the amount of _____ as filing fee.
- ☒ Credit any overpayment.
- ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: **August 25, 2000**

Marylee Jenkins
Reg. No. 37,645
Attorney for Applicant
Filed Under § 1.34 (a)

cc:

PATENT
B588-011
Express Mail No.: EL175652428US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Hiroyuki Hara
Serial No.	:	Unassigned
For	:	CHARGE CALCULATION APPARATUS AND METHOD
Filed	:	August 25, 2000
Examiner	:	Unassigned
Art Unit	:	Unassigned

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Please amend the above-identified application as follows prior to examination thereof.

In the Specification

At page 1, line 23, change "pseudo" to -- (pseudo) --.

At page 4, line 5, change "flow chart" to -- flowchart --.

At page 4, line 10, change "flow chart" to -- flowchart --.

At page 6, line 14, after "Windows", insert -- operating --.

At page 6, line 21, after "Windows", insert -- operating --.

At page 6, line 26, change "powered" to -- turned --.

At page 7, lines 5-6, change "flow chart" to -- flowchart --.

At page 7, line 6, change "flow chart" to -- flowchart --.

At page 8, line 4, change "done" to -- decided --.

At page 9, line 26, after "is", insert -- then --.

At page 10, line 13, change "and" to -- but --.

At page 11, line 25, change "flow chart" to -- flowchart --.

At page 11, line 25, after "explaining", insert -- the --.

At page 17, line 22, change "magnetooptical" to -- magneto-optical --.

REMARKS

The above amendments to the Specification are entered to correct various typographical and grammatical errors in the Specification. Please make these amendments prior to examination of the application.

Dated: August 25, 2000

Respectfully submitted,

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EXP MAIL:
EL175652428US

TITLE OF THE INVENTION

CHARGE CALCULATION APPARATUS AND METHOD

FIELD OF THE INVENTION

The present invention relates to a charge calculation method and apparatus capable of calculating the charge for application software independently of the charge for an apparatus.

BACKGROUND OF THE INVENTION

Conventionally, when a user has input or output document data using an input/output device such as a scanner or printer, the user is charged for use of the device.

In this conventional charge scheme, the number of pages of input/output document data is counted in units of input/output devices used for input/output, and the user is uniformly charged using the count information.

Generally, a variety of software for document editing or document input/output are available at different costs.

For example, when a document is output, its style changes depending on the software used. In addition, some software cannot process full-color data but can process only, e.g., 256 pseudo colors.

In the prior art, however, the user is charged using only the count information of each input/output device. For this reason, when the numbers of input/output pages

equal, the charges also equal independently of the type and quality of the software used.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a more appropriate charge system which charges for not only use of a device but also for the used application software.

It is another object of the present invention to calculate the charges for not only application software stored in a computer but also various application software distributed through a network independently of the charge for the device.

In order to achieve the above objects, according to the present invention, there is provided a charge calculation apparatus comprising data processing means for creating and/or editing data using application software, input/output means for inputting or outputting data using a data input/output device connected to the charge calculation apparatus or a data input/output device connected through a network, and calculation means for calculating a charge for the data input/output device, or a charge for the application software independently of the charge for the data input/output device.

There is also provided a charge calculation apparatus comprising first calculation means for calculating a charge for a device for inputting or outputting data, and second

calculation means for calculating a charge for application software used to use the device.

There is also provided a charge calculation method comprising the data processing step of creating and/or editing data using application software, the input/output step of inputting or outputting data using a data input/output device connected to the charge calculation apparatus or a data input/output device connected through a network, and the calculation step of calculating a charge for the data input/output device, or a charge for the application software independently of the charge for the data input/output device.

There is also provided a charge calculation method comprising the first calculation step of calculating a charge for a device for inputting or outputting data, and the second calculation step of calculating a charge for application software used to use the device.

Other features and advantages of the present invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the figures thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram showing the arrangement of an information processing system used in the first

embodiment of the present invention;

Fig. 2 is a view showing the memory map of the information processing apparatus according to the first embodiment of the present invention;

Fig. 3 is a flow chart showing the processing procedure of the first embodiment of the present invention;

Fig. 4 is a view showing the arrangement of a network system according to the second embodiment of the present invention; and

Fig. 5 is a flow chart showing the processing procedure according to the second embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

(First Embodiment)

An embodiment of the present invention will be described below in detail with reference to the accompanying drawings.

In the first embodiment, charge processing for printing using a printing apparatus connected to a computer directly or through a network, and charge processing for application software used for printing will be described.

Fig. 1 is a block diagram showing the basic arrangement of an information processing system according to this embodiment. This system may be either a system such as a workstation or personal computer or a word processor

capable of loading additional software.

Referring to Fig. 1, a CPU (Central Processing Unit) controls the entire apparatus and performs arithmetic processing in accordance with a program stored in a ROM (Read Only Memory) 2 (to be described later). The ROM 2 stores a system activation program and graphic patterns/data. A RAM (Random Access Memory) 3 temporarily stores data used for calculation by the CPU 1 and a calculation result from the CPU 1.

A keyboard control section (KBC) 4 receives key input data (character code or control code) from a keyboard (KB) 5 and transmits the data to the CPU 1.

A display control section (CRTC) 6 reads out display information stored in the RAM 3, i.e., a bitmap image converted from a character code and transfers the data to a display device (CRT) (to be described later). A display device (CRT) 7 receives the bitmap image from the display control section (CRTC) 6 and displays the image on the display screen.

A disk control section (DKC) 8 controls data transmission to an external storage device 9 (to be described later). The external storage device 9 is formed from a floppy disk device (FD), hard disk device (HD), or CD-ROM. The external storage device 9 stores programs and data. The CPU 1 refers to the stored data or loads it to the RAM 3, as needed.

A printer control section (PRTC) 10 controls the operation of a printer (PRT) 11.

A pointing device (PD) 12 receives coordinate data and sends them to the CPU 1.

A network interface card (NIC) 13 transmits/receives data through a network such as a LAN or intranet.

A system bus 14 performs data transfer between the above-described components.

Fig. 2 is a view showing the arrangement of a memory map 20 in the overall processing of the document charge system according to the first embodiment shown in Fig. 1. Referring to Fig. 2, reference numeral 21 denotes a basic I/O program; 22, a memory map in which an operating system such as the Windows system is loaded in the RAM 3 and becomes executable; 23, a memory map in which the program of this embodiment is loaded in the RAM 3 and becomes executable; 24, a memory map in which related data is loaded in the RAM 3 and becomes executable; and 25, a memory map of a work memory used by each program.

This apparatus operates when the basic I/O program 21, operating system 22 such as the Windows system, and the application 23 as the processing of this embodiment are executed by the CPU 1. The basic I/O program 21 is stored in the ROM 2 shown in Fig. 1. The operating system 22 is stored in the hard disk device (HD) shown in Fig. 1. When this apparatus is powered on, the operating system 22 is

loaded from the hard disk device (HD) to the RAM 3 by the IPL (Initialize Program Loading) function in the basic I/O program 21, and the operation starts.

Processing of this embodiment having the arrangement shown in Fig. 1 will be described with reference to the flow chart shown in Fig. 3. This flow chart shows print output processing.

First, using application software selected by the user from a plurality of application software in accordance with the purpose, a document to be printed is designated from the keyboard 5 or pointing device 12. The CPU 1 instructs the printer 11 or a printer on the network to print through the printer control section 10 or NIC 13 and causes the printer 11 or printer on the network to print (step S301). Note that the print designation includes designation of an output printer, output range, and the number of output copies.

When the printer prints on the basis of the contents of the print designation in step S301, the printer outputs a request count to the CPU 1 through the printer control section 10 or NIC 13 and notifies the CPU 1 of the output result (step S302).

In step S303, for appropriate charge processing, the CPU 1 acquires the actual number of prints, i.e., the print completion count from the printer 11 or printer on the network. However, if the output device cannot acquire the

actual number of prints, the print instruction count designated in step S301 is used as the print completion count.

In step S304, determination is done on the basis of predetermined information representing whether charge processing for the printer that has printed is to be performed, or whether charge processing is to be performed is displayed on the display device 7 to prompt the user to determine.

If it is determined in step S304 that charge processing for the printer that has printed is not to be executed, the flow advances to step S307.

If it is determined in step S304 that charge processing for the printer that has printed is to be executed, the flow advances to step S305.

In step S305, the print unit price information of the printer that has printed is acquired by looking up a charge table for each output device, which is managed in the computer that has instructed printing or the server on the network.

In step S306, the print charge amount for the printer used for print output is calculated on the basis of the print completion count acquired in step S303 and the print unit price information acquired in step S305.

In step S307, whether charge processing is necessary for the application software and driver software used for

print output is determined as in the charge for the printing apparatus. If it is determined that charge processing is to be performed, the flow advances to step S308 to acquire the unit price information of the used application software and driver software from a charge table for each software, which is managed in the computer that has instructed printing or the server on the network. If charge processing is unnecessary, the flow advances to step S310.

To charge for a plurality of software, the total unit price information of the individual software is used as the unit price information of software in step S308.

In step S309, the software charge amount for the software used for print output is calculated on the basis of the print completion count acquired in step S303 and the print unit price information acquired in step S308.

In step S310, to calculate the total charge amount of the print output result, the print charge amount for the printer used for print output and the software charge amount for the software used for print output are added. If the user is not charged for each printing apparatus, the software charge amount calculated in step S308 is obtained as the total charge amount. If the user is not to be charged for software although he or she is charged for the printing apparatus, the charge amount for the printing apparatus is obtained as the total charge amount.

The user is billed the calculated total charge

amount.

The contents of the first embodiment have been described above. The unit price information of the used software is acquired in step S308, and its contents are multiplied by the print completion count acquired in step S303, thereby calculating the charge amount for the software in step S309. However, some software have charge amounts for use of them independently of the print completion count. For such software, the unit price information of the software equals the charge amount for the software.

The present invention is not limited to print output processing described in the above embodiment and can also be effectively applied to software charge processing in another output or input processing.

For example, when different software charge unit prices are set for software capable of loading only monochrome images and software capable of processing full-color images, finer charge management is possible.

(Second Embodiment)

In the first embodiment, charging for a printing apparatus that has printed and charging for application software used for printing have been described. In the second embodiment, charging for use of various input/output devices connected to the information processing apparatus (to be referred to as the computer hereinafter) shown in

Fig. 1, input/output devices connected to the computer through a network, various applications stored in the computer, or various applications stored in a server connected through a network and used through the network will be described.

Fig. 4 is a view showing an example in which various devices usable through the computer shown in Fig. 1 or a network are connected to this network.

Referring to Fig. 4, a computer 401 of this embodiment creates or edits a document, or outputs a print instruction or facsimile transmission instruction for the document. The computer 401 can use an application stored in a server or external storage device through a network or read an image from a scanner through network.

A copying machine 402 has not only a copy function but also an image read function as a scanner and a print function as a printer. Reference numeral 403 denotes a printer; 404, a scanner; and 406, a facsimile apparatus. A server 405 stores an application used for document creation or editing and a plurality of applications for use of the scanner, printer, facsimile apparatus, copying machine, and external storage device. An external storage device 407 stores a plurality of applications, like the server.

Fig. 5 is a flow chart for explaining processing of this embodiment.

This embodiment will be described below with reference to Figs. 4 and 5.

In step S501 shown in Fig. 5, when a use instruction of the application software stored in the computer 401 or application software selected from the plurality of application software stored in the server 405 or external storage device 407 on the network in accordance with the purpose is input from the keyboard or pointing device of the computer, it is determined in step S502 whether the application software incurs any charge. As for this determination, if the designated application software has already been purchased by the user for value, it is determined that the application software does not incur any charge. Application software which is stored in the computer, server 405, or external storage device 407 and for which the user is charged for the use of it is determined chargeable. Furthermore, whether the application software is chargeable or not is held as attribute information by the application software, and is determined by the computer 401 based on the attribute information when the application software is activated.

When it is determined in step S502 that the application software is chargeable, charge information for that application software is acquired in step S503. More specifically, charge information is acquired by referring to the charge information of the designated application

software in a charge table for each application software, which is managed in the computer, server 405, or external storage device 407. When the application software for which the use instruction is output is document creation/editing software, the charge information includes pieces of information representing whether all processing operations including creation, editing, printing, and facsimile transmission of a document become available when a predetermined charge is paid, whether the charge need be paid in units of processing operations, whether an additional charge is incurred after the elapse of a predetermined use time, or whether the charge changes depending on the number of printed pages if a print instruction is issued from that application software, whether no limitation is posed on the number of printed pages when a predetermined amount has been paid, or whether the user is separately charged for the printing apparatus and software.

When the application software for which the use instruction is output is software for use of the scanner, the charge information also includes pieces of information representing whether the charge need be paid every time an image is read, whether the number of read images is not limited when a predetermined amount has been paid, and whether the user is separately charged for use of the scanner and use of software.

When the application software for which the use instruction is output is software for use of the facsimile apparatus, the charge information also includes pieces of information representing whether the charge need be paid for each communication, whether the number of times of communication is not limited when a predetermined amount has been paid, and whether the user is separately charged for use of the facsimile apparatus and use of software.

In step S504, the user is notified of the charge information acquired in step S503. In step S505, when the user who has confirmed the notified charge information determines use of the application software, the application software is activated and made available.

When a use instruction for a data input/output device connected to the network, such as the copying machine 402, printer 403, scanner 404, or facsimile apparatus 406, or a data input/output device directly connected to the computer is input in step S507, it is determined in step S508 whether the data input/output device incurs any charge. As for this determination, if the designated device can be used without any charge, or the device charge is already included as the charge for application software, it is determined that the device does not incur any charge. A device for which a charge need be paid independently of the charge for application software is determined chargeable.

When it is determined in step S508 that the designated

device is chargeable, charge information related to the device is acquired in step S509. More specifically, charge information is acquired by referring to the charge information of the designated device in a charge table for each data input/output device, which is managed in the computer, server 405, or external storage device 407. When the designated device is the copying machine, the charge information includes pieces of information representing whether the user is charged for each copy, whether no limitation is posed on the number of copies when a predetermined amount has been paid, or the charge for use of only the print function or scanner function of the copying machine.

When the designated device is the printer, the charge information includes pieces of information representing whether the user is charged for each printed page, or whether the number of printed pages is not limited when a predetermined amount has been paid. When the designated device is the scanner, the charge information includes pieces of information representing whether the user is charged for each read image, or whether the number of read images is not limited when a predetermined amount has been paid. When the designated device is the facsimile apparatus, the charge information includes pieces of information representing whether the charge need be paid every time a communication is performed, or whether the

number of times of communication is not limited when a predetermined amount has been paid.

In step S510, the user is notified of the charge information acquired in step S509. In step S511, when the user who has confirmed the notified charge information determines use of the device, the flow advances to step S512 to determine whether use of the device is ended.

When use of the device is ended, the flow advances to step S513 to calculate the amount of charge for use of the device on the basis of the charge information acquired in step S509. If use of application software is also ended in step S514, the flow advances to step S515 to calculate the amount of charge for the application software on the basis of the charge information acquired in step S503. In step S516, the total charge amount including the charge amount of the application software and that of the data input/output device is calculated. In step S517, the user is billed that amount.

As described above, according to this embodiment, charges for not only application software stored in the computer but also various application software provided through the network can be calculated independently of the charge for the device.

As described above, according to this embodiment, when the charge unit price of application software is set in consideration of the function or price of application

software used for various data processing operations, not only the charge amount for use of the device but also the charge amount for the application software used can be calculated, so finer charge management can be implemented.

The present invention may be applied to a system constituted by a plurality of devices (e.g., a host computer, an interface device, a reader, a printer, and the like) or an apparatus comprising a single device (e.g., a copying machine, a facsimile apparatus, or the like).

The object of the present invention is realized even by supplying a storage medium storing software program codes for realizing the functions of the above-described embodiments to a system or apparatus, and causing the computer (or a CPU or an MPU) of the system or apparatus to read out and execute the program codes stored in the storage medium.

In this case, the program codes read out from the storage medium realize the functions of the above-described embodiments by themselves, and the storage medium storing the program codes constitutes the present invention.

As a storage medium for supplying the program codes, a floppy disk, a hard disk, an optical disk, a magnetooptical disk, a CD-ROM, a CD-R, a magnetic tape, a nonvolatile memory card, a ROM, or the like can be used.

The functions of the above-described embodiments are realized not only when the readout program codes are executed

by the computer but also when the OS (Operating System) running on the computer performs part or all of actual processing on the basis of the instructions of the program codes.

The functions of the above-described embodiments are also realized when the program codes read out from the storage medium are written in the memory of a function expansion board inserted into the computer or a function expansion unit connected to the computer, and the CPU of the function expansion board or function expansion unit performs part or all of actual processing on the basis of the instructions of the program codes.

As many apparently widely different embodiments of the present invention can be made without departing from the spirit and scope thereof, it is to be understood that the invention is not limited to the specific embodiments thereof except as defined in the appended claims.

WHAT IS CLAIMED IS:

1. A charge calculation apparatus comprising:

data processing means for creating and/or editing data using application software;

input/output means for inputting or outputting data using a data input/output device connected to said charge calculation apparatus or a data input/output device connected through a network; and

calculation means for calculating a charge for the data input/output device, or a charge for the application software independently of the charge for the data input/output device.

2. The apparatus according to claim 1, wherein said data processing means creates and/or edits document data.

3. The apparatus according to claim 1, wherein said data input/output device comprises at least one of a printer, scanner, copying machine, server, facsimile apparatus, and external storage device.

4. A charge calculation apparatus comprising:

first calculation means for calculating a charge for a device for inputting or outputting data; and

second calculation means for calculating a charge for application software used to use the device.

5. The apparatus according to claim 4, wherein the application software is stored in said charge calculation apparatus.

6. The apparatus according to claim 4, wherein the application software is provided through a network.

7. A charge calculation method comprising:

the data processing step of creating and/or editing data using application software;

the input/output step of inputting or outputting data using a data input/output device connected to said charge calculation apparatus or a data input/output device connected through a network; and

the calculation step of calculating a charge for the data input/output device, or a charge for the application software independently of the charge for the data input/output device.

8. The method according to claim 7, wherein the data processing step comprises creating and/or editing document data.

9. The method according to claim 7, wherein the data input/output device comprises at least one of a printer, scanner, copying machine, server, facsimile apparatus, and external storage device.

10. A charge calculation method comprising:

the first calculation step of calculating a charge for a device for inputting or outputting data; and

the second calculation step of calculating a charge for application software used to use the device.

11. The method according to claim 10, wherein the

application software is stored in a computer.

12. The method according to claim 10, wherein the application software is provided through a network.

13. A computer-readable storage medium which stores program codes of a charge calculation method, comprising:

a code of the data processing step of creating and/or editing data using application software;

a code of the input/output step of inputting or outputting data using a data input/output device connected to said charge calculation apparatus or a data input/output device connected through a network; and

a code of the calculation step of calculating a charge for the data input/output device, or a charge for the application software independently of the charge for the data input/output device.

14. A computer-readable storage medium which stores program codes of a charge calculation method, comprising:

a code of the first calculation step of calculating a charge for a device for inputting or outputting data; and

a code of the second calculation step of calculating a charge for application software used to use the device.

ABSTRACT OF THE DISCLOSURE

The charge for application software used to input/output data is calculated independently of the charge for a device used to input/output the data, thereby flexibly charging for data input/output.

FIG. 1

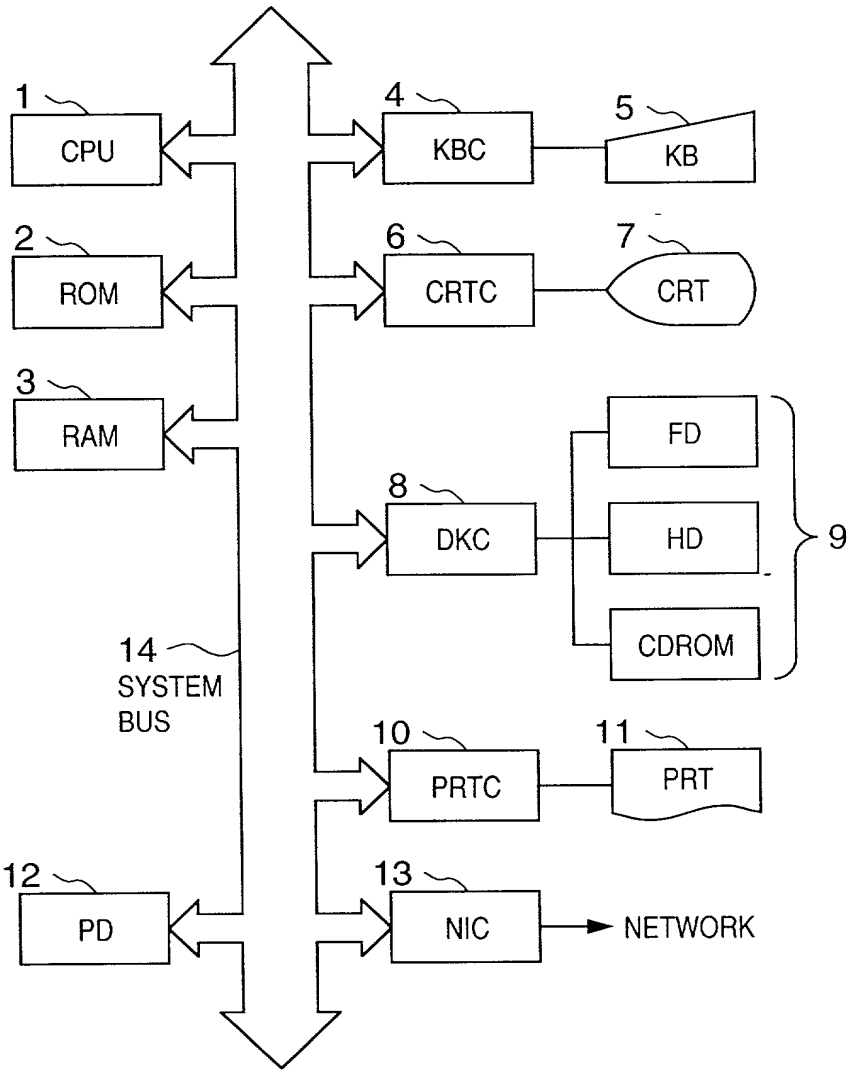


FIG. 2

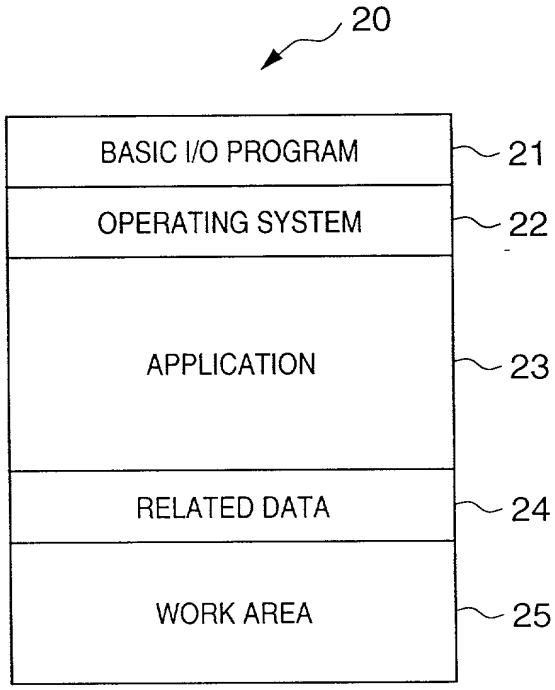

20
BASIC I/O PROGRAM
21
OPERATING SYSTEM
22
APPLICATION
23
RELATED DATA
24
WORK AREA
25

FIG. 3

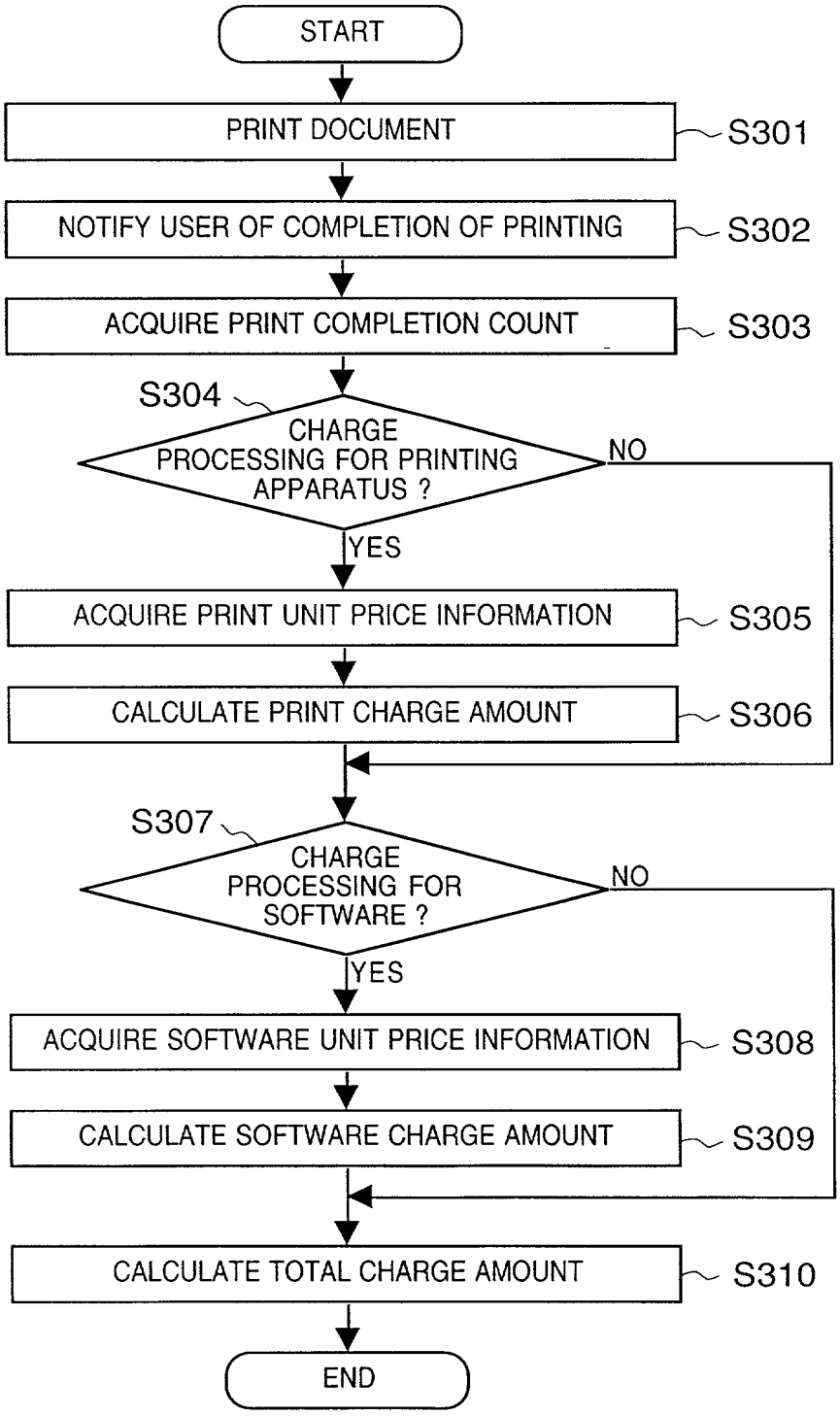

START
PRINT DOCUMENT
S301
NOTIFY USER OF COMPLETION OF PRINTING
S302
ACQUIRE PRINT COMPLETION COUNT
S303
S304
CHARGE PROCESSING FOR PRINTING APPARATUS ?
NO
YES
ACQUIRE PRINT UNIT PRICE INFORMATION
S305
CALCULATE PRINT CHARGE AMOUNT
S306
S307
CHARGE PROCESSING FOR SOFTWARE ?
NO
YES
ACQUIRE SOFTWARE UNIT PRICE INFORMATION
S308
CALCULATE SOFTWARE CHARGE AMOUNT
S309
CALCULATE TOTAL CHARGE AMOUNT
S310
END

FIG. 4

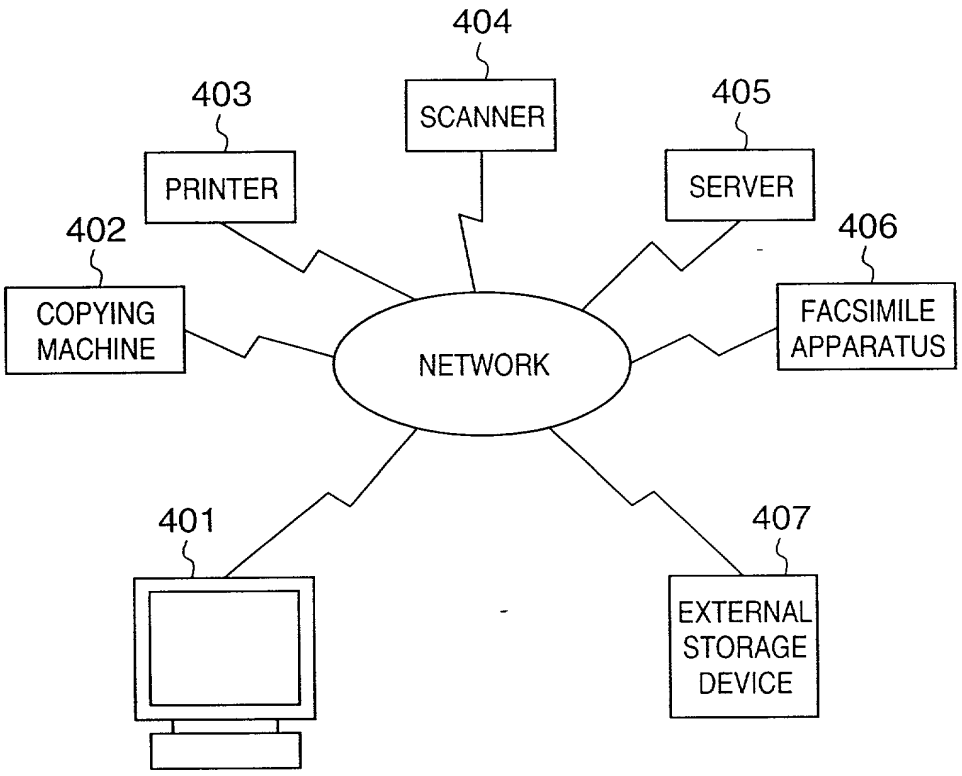
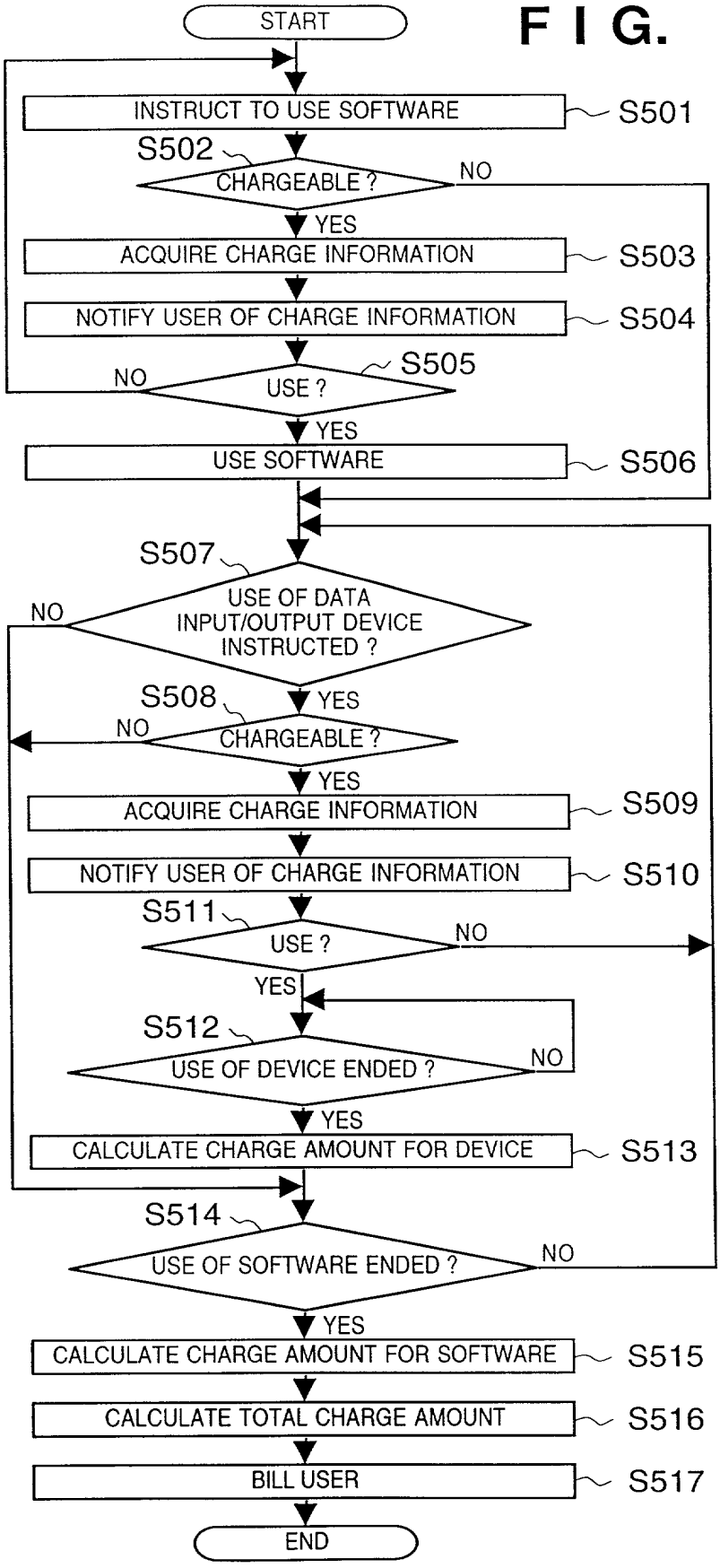

404
SCANNER
403
PRINTER
405
SERVER
402
COPYING MACHINE
406
FACSIMILE APPARATUS
NETWORK
401
407
EXTERNAL STORAGE DEVICE

FIG. 5


START
INSTRUCT TO USE SOFTWARE
S501
S502
CHARGEABLE ?
NO
YES
ACQUIRE CHARGE INFORMATION
S503
NOTIFY USER OF CHARGE INFORMATION
S504
S505
NO
USE ?
YES
USE SOFTWARE
S506
S507
USE OF DATA INPUT/OUTPUT DEVICE INSTRUCTED ?
NO
YES
S508
NO
CHARGEABLE ?
YES
ACQUIRE CHARGE INFORMATION
S509
NOTIFY USER OF CHARGE INFORMATION
S510
S511
USE ?
NO
YES
S512
USE OF DEVICE ENDED ?
NO
YES
CALCULATE CHARGE AMOUNT FOR DEVICE
S513
S514
USE OF SOFTWARE ENDED ?
NO
YES
CALCULATE CHARGE AMOUNT FOR SOFTWARE
S515
CALCULATE TOTAL CHARGE AMOUNT
S516
BILL USER
S517
END